DOH-Construction Review Services

The Square Knot

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A publication to join in a partnership, with our customers, for world class healthcare

Washington State Department of Health
CONSTRUCTION REVIEW SERVICES

Inside this issue:

Questions?!?

Give us a call

(360) 705-6784

Chad Beebe	705-6648
Rob Bradley	705-6685
Bill Kingrey	705-6783
Dick Swanson	705-6782
Debbie Rogge	705-6778
Alisa Smith	705-6784
Doug Taylor	705-6628
John Templar	705-6786
FAX	705-6654

Email: FSLCRS@DOH.WA.GOV

WWW.DOH.WA.GOV/CRS

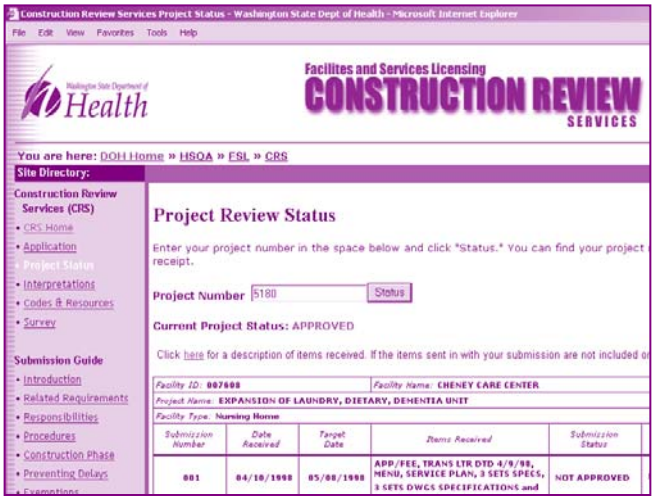
It Couldn't Have Happened Without You

Notable improvements have been made in the construction review process over the last year to better serve you – our customer. The majority of the improvements couldn't have happened without you. We appreciate everyone's cooperation in helping us achieve our goals. Some of your contributions have been:

- Filling out our online survey, which has helped us analyze our performance and set new goals to provide better service to our customers. Submissions of our quick and easy 10-question anonymous online survey are reviewed every day.

- Sending in information including transmittals with submitted items clearly identified have helped increase productivity and eliminate submission setup errors. We typically receive 70 to 100 pieces of mail each week. All items received are opened immediately and assigned project numbers, or assigned to existing projects. Items not clearly identified are set aside to be setup later as time permits. With this overwhelming amount of mail staff has been very appreciative of customers who have clearly identified their information with the project name, project number and a description of the items included with the submission.

- Attending conferences are experiencing a quicker review process. The average number of submissions for a project two years ago was four. We have seen an increase of customers attending conferences to discuss projects with review staff over the past year. As a result, the average number of submissions for those projects has been reduced to three. Several customers have been very appreciative of our 90% construction document conference as well as our post review conference. The post review conference has helped many facilities acquire approval on the second submission to the department.



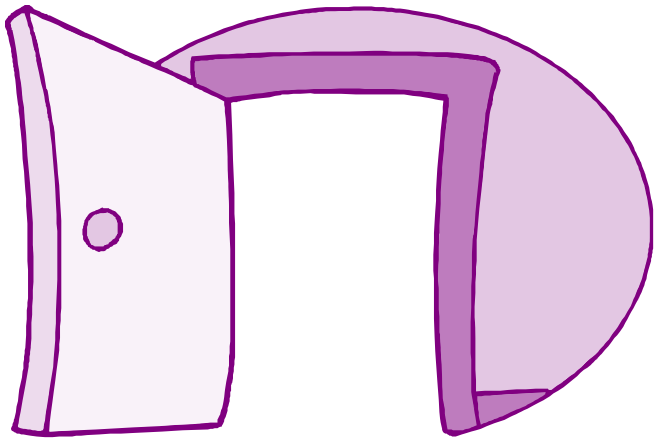
Project status is always of utmost concern to our customers. Since we introduced our project status page we have noticed the number of requests for a project's status have been reduced.

Continued on Page 6

Special Egress Control Devices Unlocked…

In the 1988 Uniform Building Code (UBC) special egress control devices (SECD) were included in the UBC to resolve the problem of exit doors being illegally locked by building operators desperate to stop the theft of merchandise through unsupervised exits and to stop unwanted entry into their buildings during hours of business.

In 1994, the UBC expanded the applicability for special egress control devices to additional occupancies. Group I, Division 2 and Group R, Division 1 congregate residences serving as group-care facilities were permitted to be equipped with special egress control devices. These occupancies were added because it was perceived that they also had security problems that needed to be addressed. The devices are also sometimes needed in nursing homes or group-care facilities where facility operators must restrict patient/ resident egress, for resident safety, while still maintaining a viable exit system.



It must be emphasized that under the conditions imposed by this section of the UBC, and within the reliability of the automatic systems required, there will be no delay whatsoever at the exit in an actual fire emergency - the door will be immediately openable.

Special egress-control device conditions.

1. First, the approval of the building official must be obtained to permit the installation of any special egress control device.

2. The entire building in which the special egress-control device is installed must be completely protected throughout by both an approved automatic sprinkler system and an approved automatic smoke-detection system. The device must immediately and automatically deactivate on activation of the sprinkler system or detection system and on the loss of electrical power to the egress-control device, to the smoke-detection system or to the exit illumination.

There must also be a way of manually deactivating the egress-control device by the operation of a switch located in an approved location. When the operating device is activated, it must initiate an irreversible process that will cause the egress- control device to deactivate whenever a manual force of not more than 15 pounds is applied for a minimum period of two seconds to the operating hardware. The irreversible process must achieve the deactivation of the device within a time period of not more than 15 seconds from the time the operating hardware is originally activated. To ensure that the time period will not exceed 15 seconds, the code specifies that the egress- control device shall be so constructed that it is not possible to adjust the time period in the field.

Upon activation of the operating hardware, an audible signal shall be initiated at the door so that the person attempting to exit the building will be aware that the irreversible process has been started. At the expiration of the 15-second time period or on automatic deactivation by any of the required systems, the unlatching of the door shall not require more than a single operation.

A sign should be installed on the door within 12 inches of the operating hardware so that the person seeking egress may be informed as to the type and nature of the egress-control device. The sign must read **KEEP PUSHING, THIS DOOR WILL OPEN IN 15 SECONDS. ALARM WILL SOUND.** In spite of the words "keep pushing," it should be noted that the irreversible process will be commenced when the operating hardware has been depressed for a period not exceeding two seconds; therefore, it is not absolutely necessary to "keep pushing" to unlatch the door. The required sign shall be in letters having a height of at least 1 inch (25 mm) and a thickness of stroke of not less than 1/8 inch (3.2 mm).

Egress-control device reactivation.

The code emphasizes that, regardless of the means of deactivation, reactivation of the egress-control device shall only be by manual means at the door. This requirement ensures that to relock the egress-control device, someone must go to the door itself, verify that the emergency no longer exists and only then reactivate the SECD by manual means.

-Chad Beebe

What is Feng Shui?

At a health care symposium in Nashville, Tennessee Nancilee Wydra presented an overview on Feng Shui.

Feng Shui, which had its beginnings in China, involves how a person experiences a space through the senses - sight, sound, scent, touch, and movement. Every choice in color, placement of openings, shape of spaces, and feel of the materials causes a human response. Therefore, when a person enters a facility, such as a hospital, it is the process from beginning to end that is more important for a satisfactory human experience than the end result.

70% of our information is taken in through the eye. When a person enters a space, especially for the first time, the eye automatically checks out four things: perimeter, light, motion, and the room diagonal. How a room is laid out will determine how a person experiences that space.

The design of the patient room will determine whether the eye looks at the patient first or not. If the patient is a child, then the patient needs immediate eye contact because children generally live in a grasping mode where everything is immediate. For other patients, there may be a need for a moment of transition as the visitor enters the space and both the visitor and patient use the moment to prepare themselves for looking at each other.

In our western culture where most people are right handed and we have been trained to drive on the right side of the road, a person has the most comfort level when the entrance to a space is straight ahead or to the right. Placing signage or a reception counter straight ahead or to the right of an entrance may provide the most comfort for those entering the space.

Sound is our first connection to life. A silent atmosphere, in most cases, is not nurturing. Complete silence is unnatural. The sound of footsteps may help the patient, the caregivers, and other occupiers of a space by helping them orient to the activity around them.

Scent needs to be controlled, needs to have an edge so that others may escape its sphere of influence. Don't place a popcorn popper or coffee maker in an area where patients are required to travel when they are deprived for food and drink, if you wish to provide them with a satisfying experience. Don't leave "hospital" scents around a patient by leaving used supplies within their sphere, or leaving their gown or bedding contaminated with the fluids from an alcohol swab, etc.

Touch is equated with intimacy. The feel or variety of textures can improve a person's experience. The finish of a material should not only be selected for its function and longevity, but also for the desired reaction. Some spaces need the person experiencing that space to take action, while other spaces need the person to feel calmed.

Different colors and their saturation cause different reactions. A deep saturation of color causes a physical reaction, while a middle saturation of color causes a mental reaction, and a light saturation of color causes an emotional reaction. A person's reaction to color is affected by the length of time exposed to the color, the expanse of the color, and the reflective quality and quantity of the color. A dark colored floor surface in front of an opening may prevent an Alzheimer patient from passing through the opening because they perceive the dark floor surface as a hole.

-Dick Swanson

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CRS-Employee Changes

Daniel Auderer, CRS Project Coordinator, has accepted a position (and new career) with Adair Homes. His last day with us was September 6, 2002.

Carol Herigstad, Office Assistant, is moving to the DOH-Health Statistics section. Her last day was September 13, 2002.

Alisa Smith has accepted the position of CRS-Project Coordinator. She was formerly with the DOH-Enforcement Unit. Alisa began on August 28, 2002.

Guideline to Mobile Units

In mid-July Doug Taylor and Chad Beebe visited a Mobile MRI unit in Eastern Washington. The purpose of the visit was to discuss the feasibility of using mobile services with several area hospitals. There has been a common misconception that the cost that would be incurred to meet the regulations would exceed the benefits of providing mobile services. Construction Review has provided many cost effective alternate methods to meet the regulations.

Mobile units providing hospital services (for billing purposes) shall meet the requirements of Chapter 246-320 WAC regardless of their length of stay. Several items that need special attention are listed below. Since each project is unique, specific conditions may arise which must be reviewed on a case-by-case basis.

WAC Interpretation
Manufactured/Modular/Mobile Structures

Q: Does Chapter 246-320 WAC apply to manufactured/ modular buildings and mobile units used to provide hospital services?

A: Yes, all services provided under a hospital license regardless of the type of structure or facility, whether contracted or directly provided, are required to meet the requirements of Chapter 246-320 WAC.

- If the utility service connections are from existing utility services within the hospital, then Construction Review Services must review all connections regardless if the mobile unit is providing hospital services or not. When services are provided directly from the utility company and the patient care services are not to be provided by the hospital, construction review services are not required.

- Special attention must be paid to the location of exhausts and intakes of the Mobile Unit and its proximity to exhausts and intakes for the building as well.

- If the mobile unit or hospital is not sprinklered, then the mobile unit must be sited more than 20' from the building to provide adequate protection to the building. Awnings and overhangs are considered part of the building and measurements shall be taken from the edge of such.

- A 9'-0" clear area (exclusion zone) shall be maintained around the back and sides of MRI units at all times while the unit has power. A barrier shall be provided that is sufficient to keep cars and pedestrians away such as fencing, ropes and cones.

- Utility hook-ups shall be protected from wear by traffic. Bare cables shall be concealed in a raceway that provides adequate protection.

- The smoke detector shall be connected to a device that will notify hospital staff outside of the mobile unit in the event of a fire at anytime the mobile unit is parked on site. When the mobile unit is onsite (even when not in use) it is the responsibility of the hospital. If a fire does occur; then staff should be notified immediately to take the appropriate actions. Fire alarm communications may be obtained via an auto dialer connected to the smoke detectors, or an audible device located on the outside of the mobile unit or connection to the hospital fire alarm system. The appropriate device would be determined by site conditions.

- Emergency communications (nurse call) may be obtained via telephone.

- When sedation is planned medical gas may be portable as long as necessary precautions are taken to ensure the safety of the patients. Only non-ferrous cylinders & assemblies shall be used in MRI's. Storage shall be limited to a maximum of one tank for use and one tank as a spare.

Sanitizing gels are an acceptable substitute to hand washing within the unit when a hand wash sink

- is located conveniently inside the hospital, except when the procedures being performed within the mobile unit require hand washing due to visible dirt or contamination with proteinaceous body substances.

- When restroom facilities are not provided in the mobile unit, patients shall be provided a restroom convenient to areas where they will be waiting. They shall also be reminded to use the restroom before they enter the mobile unit. Also, provide a disposable bedpan and urinal in the mobile unit for emergency use.

- Patient protection from the elements may be obtained by other means than covered walkways. Snow shall be kept clear of pathways to and from the mobile unit. Effective means of abating ice shall be used when conditions exist. Protecting the patient from dust & wind also need to be considered.

- If used for inpatients the unit must accommodate a stretcher or a gurney.

-Chad Beebe

Washington State Society for Healthcare Engineering
WSSHE
Annual Conference
October 16,17,18, 2002
West Coast Wenatchee Center Hotel
Wenatchee, WA
Program: It's about People….Not Buildings

For the registration form, agenda, and menu visit:

www.wsshe.org

ABCD's of Keeping Food Safe in an Emergency

Always keep meat, poultry, fish, and eggs refrigerated at or below 40 °F and frozen food at or below 0 °F. This may be difficult when the power is out. ***Keep the refrigerator and freezer doors closed as much as possible to maintain the cold temperature.*** The refrigerator will keep food safely cold for about 4 hours if it is unopened. A full freezer will hold the temperature for approximately 48 hours (24 hours if it is half full) if the door remains closed. Obtain dry or block ice to keep your refrigerator as cold as possible if the power is going to be out for a prolonged period of time. Fifty pounds of dry ice should hold a 18-cubic foot full freezer for 2 days. Plan ahead and know where dry ice and block ice can be purchased.

Be prepared for an emergency by having items on hand that don't require refrigeration and can be eaten cold or heated on the outdoor grill. Shelf-stable food, boxed or canned milk, water, and canned goods should be part of a planned emergency food supply. Make sure you have ready-to-use baby formula for infants and pet food. Remember to use these items and replace them from time to time. Be sure to keep a hand-held can opener for an emergency.

Consider what you can do ahead of time to store your food safely in an emergency. If you live in a location that could be affected by a flood, plan your food storage on shelves that will be safely out of the way of contaminated water. Coolers are a great help for keeping food cold if the power will be out for more than 4 hours—have a couple on hand along with frozen gel packs. When your freezer is not full, keep items close together—this helps the food stay cold longer.

Digital, dial, or instant-read food thermometers and appliance thermometers will help you know if the food is at safe temperatures. Keep appliance thermometers in the refrigerator and freezer at all times. When the power is out, an appliance thermometer will always indicate the temperature in the refrigerator and freezer no matter how long the power has been out. The refrigerator temperature should be 40 °F or below; the freezer, 0 °F or lower. If you're not sure a particular food is cold enough, take its temperature with a food thermometer.

-USDA: Food Safety and Inspection Service

http://www.fsis.usda.gov/index.htm

It couldn't Have Happened without You..
continued from Page 1

This reduction allows more time for project reviews and quicker project turn-around times.

Construction Review Services policy is to only stamp revised sets of plans for approval. Outdated drawings are voided or removed and revised sheets are incorporated into new sets. We have had a lot of cooperation from customers who have provided us with a signed, stamped set of documents that includes all of the revisions from the plan review process. This allows us to stamp the set of documents "Approved" a few days earlier because our staff does not need to spend time sorting and reassembling plans.

-Chad Beebe

Survey Shows Parents Need to Measure Children's Medicine More Accurately

"Take 1 tsp. 3 times a day."

A parent reads these familiar dosage directions on her child's prescription medicine. She reaches into her kitchen silverware drawer and selects a small spoon, then carefully pours the liquid and gives the tot the correct dose. Right?

Probably not. Almost three-quarters of caregivers surveyed in a recent study use standard flatware spoons to measure medicines at least some of the time. But typical household teaspoons hold from 2 to 10 milliliters of liquid, so chances are this mom gave something other than the prescribed 5 milliliter dose--the equivalent of one measuring teaspoon.

Even though the American Academy of Pediatrics has been recommending for 25 years that more accurate dosing devices be used, there have been few studies that look at how often or how well these devices--including oral dosing syringes, medicine cups, and calibrated medicine droppers and spoons--are actually used by parents. So physicians Diane J. Madlon-Kay and Frederick S. Mosch of Regions Hospital in St. Paul, Minn., and the University of Minnesota Medical School in Minneapolis designed a study to find out. They surveyed patients at three primary care clinics in St. Paul, Minn., to see what dosing devices caregivers use and how accurately they are measuring their medications.

Seventy-three percent of the 130 patients surveyed reported using a household teaspoon for measuring medicines, but most could also use more accurate devices correctly. The participants were able to measure the proper amount of liquid using an oral dosing syringe more than 90 percent of the time. When interpreting dosing instructions, survey participants usually were correct when instructions called for taking medicine three or four times a day. But in many cases, they misinterpreted instructions calling for a dose every six hours, assuming that medicine should be given in six-hour intervals while awake, resulting in three daily doses, rather than the prescribed four a day.

Based on these survey results, the researchers encourage clinicians to promote the use of accurate dosing implements, especially oral dosing syringes. They also suggest that medication instructions should indicate the dosing interval by number of doses per day, rather than hours between doses. (The Journal of Family Practice, August 2000)

-FDA-Consumer Magazine January-February 2001

For more on how to give medicines properly, *see "Avoiding Problems: Liquid Medication and Dosing Devices," October 1994 FDA Consumer, and "How to Give Medicine to Children," January-February 1996 FDA Consumer. To request a printed copy of the 1996 article, write to FDA (HFD-210), 5600 Fishers Lane, Rockville, MD 20857.*

EDITORS NOTE:

A JCAHO report estimates that 19% of the 98,000 annual hospital related deaths are due to medication errors.

Avoiding medication errors applies to any person when taking and any facility administering medications, You need to be aware of the serious implications of drug interactions, over-dosing, and taking the wrong drug.

The problem is serious enough the Department of Health, professional associations and Washington state hospitals have analyzed the impact of medication errors and have provided solutions in the DOH-2000 Medication Errors and Recommendations report. You may obtain a copy of the final report from the department at the following web site.

http://www.doh.wa.gov/contact.htm

Ergonomics in Healthcare

Why is ergonomics important when it comes to healthcare facility employees? In 1990-1997, nursing home staff in Washington State was at the greatest risk for developing a back and upper body injury. These soft tissue injuries, called musculoskeletal disorders, are preventable using the principles of Ergonomics. Ergonomics is the science of fitting the job to the worker instead of the worker to the job.

There are specific risk factors that may contribute to musculoskeletal disorders and need to be avoided. They include working in awkward postures, repeating the same body motion over and over, forceful movements, lifting, and direct pressure to the skin.

The preferred approach to prevent these disorders is the use of environmental controls. Environmental controls address the work area layout, selection and use of tools, and work methods that take into account the capabilities and limitations of the workers.

Environmental considerations in a healthcare facility, in general:

- Minimize lifting and carrying by using mechanical lifts and utility carts
- Organize the space to ensure easy access to materials and allow one to get close to what is being lifted
- Minimize trunk twisting. Allow for sliding over lifting. Pushing over pulling
- Ensure frequently retrieved materials are within easy reach and arranged between knee and shoulder level
- Allow the employee to easy visualize their surroundings
- Allow for adequate space to maneuver equipment within the environment such as shower chairs, mechanical lifts, scales, carts
- Allow for a surface near a doorway where items are carried in/out
- Ensure equipment is maintained and in good operational condition
- Ensure controls and cranks are within easy reach

For patient care:

Availability of mechanical patient lifts, lateral transfer devices, sliding boards, toilet seat risers, height adjustable shower chairs/commodes, electric height adjustable beds, and trapezes.

For the deskwork area:

Provide adequate knee and leg space under the work surface. Provide padded chairs that are adjustable, swivel, and provide low back support. Allow deskwork to be completed in either a sitting or standing position. This can be accomplished using adjustable work surfaces or surfaces set various heights to accommodate different statures. Have rounded work surface edges/corners. Consider anti-fatigue mat, sit/stand stool and foot bar in front of standing work areas.

For computer work areas:

Allow for the keyboard, mouse and monitor height to be adjustable. Have room so that the keyboard and mouse can be set at the same level. Place the monitor perpendicular to a window. Ensure the monitor is between 18-30" from one's eyes and eyes are level with the top 1/3rd of the screen.

Besides considering the controls noted above, it is essential to train employees to work using the lowest physical stresses to their body and best postures as well as how to handle materials and equipment in a safe manner.

Utilizing the principles of ergonomics can be an effective solution to minimizing preventable injuries in the healthcare setting.

-Sarah Martin, an L&I Ergonomics specialist

www.lni.wa.gov/wisha/ergo/

The Square Knot

Department of Health
Construction Review Services
PO Box 47852
Olympia, WA 98504-7852

The Department of Health works to protect and improve the health of the people in Washington State

The Back Page

Project Status on Our Website

We have been working on an advanced search page to enhance our Project Status website. With the new advanced search page you will be able to search for projects by facility type, City, facility name or Facility ID number. At a quick glance you will be able to see the status of all projects within your facility. We hope you find this enhancement to our website a valuable resource.

The information on the project data is less than 24 hours old. We encourage everyone to track the progress of reviews with this website. We hope with your support that we will be able to offer future changes to further enhance the page to suit your needs. Remember, if you have any comments or suggestions we would love to hear them. Please email us at fslcrs@doh.wa.gov.

Also, please remember to fill out our online survey. The completed surveys will help us make changes to better serve our customers.

-Chad Beebe, Manager, Construction Review Services

The next issue ...of the Square Knot is January 2003

Our deadline for articles is November 15, 2002.

Submissions should be about 350-450 words
CRS reserves the right to edit or publish articles.

E-mail your comments and articles to:
fslcrs@doh.wa.gov
Editor: John R. Templar, RS

The next issue will provide you information about:

CRS's New Years Resolutions
2000 Life Safety Code
Washington State Society for Healthcare Engineering

Construction Review Services Mission

"Construction Review Services protects and improves the health and safety of people in Washington State by providing professional consultation and review for the design and construction of licensed or certified care facilities"